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| EXAMINER | |
|---|---|
| CHEN, SHIN LIN | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/566,578 | YAMAZAKI ET AL. | |
| | Examiner | Art Unit | |
| | Shin-Lin Chen | 1632 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) *2-31 and 42-64* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 32-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 April 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1-31-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of group VIII, claims 1 and 32-41 and the drug adrenocortical hormones in the reply filed on 5-14-09 is acknowledged.

2. Claims 2-31 and 42-64 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5-14-09.

Applicants' amendment filed 4-27-07 has been entered. Claims 4, 5, 7, 10, 15, 16, 18-21, 27, 29-32, 35, 36, 40, 41, 45, 47-49, 55, 58, 59, 63 and 64 have been amended. Claims 1-64 are pending. Claims 1 and 32-41 and the drug adrenocortical hormones are considered.

### *Oath/Declaration*

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The filing date of the instant invention is **4-27-07** as indicated in the communication mailed 9-11-07. Appropriate correction is required.

### *Double Patenting*

4. Applicant is advised that should claim 1 be found allowable, claim 40 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application

are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). They both are drawn to a pharmaceutical composition comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome.

5. Applicant is advised that should claim 1 be found allowable, claim 41 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). They both are drawn to a pharmaceutical composition comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome.

6. Applicant is advised that should claim 1 be found allowable, each of claims 36-39 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The claims are drawn to a pharmaceutical composition comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome. Medical treatment or diagnosis of an inflammatory disease is intended use, however, the elements of pharmaceutical composition is the same.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 36-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Regarding claim 36, the phrase "such as" in line 6-9 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Claims 37-39 depend from claim 36.

The phrase "the inflammatory disease is selected from the group consisting of encephalitis …, and sarcoidosis, …, and neurodegenerative diseases…" in claim 36 is vague and renders the claim indefinite. It is unclear whether the group includes "encephalitis …, and sarcoidosis" or "encephalitis …, and sarcoidosis, …, and neurodegenerative diseases…". It is unclear whether the diseases recited after "sarcoidosis" is intended in the group or not. Claims 37-39 depend from claim 36.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1 and 32-41 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for inhibiting inflammation activity in collagen type II

induced arthritis mouse model by intravenous or oral administration of Sialyl Lewis X tetrasaccharide modified liposome encapsulating prednisolone phosphate (L-Pred-SLX, SLX bonded to HSA bonded to membrane surface of liposome encapsulating prednisolone phosphate) to said mouse model or accumulation of predninsolone phosphate in eye and intestine of EAU mice by using prednisolone phosphate encapsulating in the E-selectin-targeting liposome modified by sialyl Leqis X saccharide at 50-fold and 800-fold, respectively, higher than using free prednisolone phosphate alone, does not reasonably provide enablement for a pharmaceutical composition comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome and an adrenocortical hormone for medical treatment of various diseases recited in claim 36, such as encephalitis, inflammatory eye disease, otitis, pharyngitis, pneumonia, enteritis, rheumatism, and Alzheimier's disease, via various administration routes including oral and parenteral administration or for accumulating the drug adrenocortical hormone in various inflammatory sites in a subject at a level 10 or more times higher than that of the drug administered alone. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

While determining whether a specification is enabling, one considered whether the claimed invention provides sufficient guidance to make and use the claimed invention, if not, whether an artisan would have required undue experimentation to make and use the claimed invention and whether working examples have been provided. When determining whether a specification meets the enablement requirement, some of the factors that need to be analyzed are: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of

ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and whether the quantity of any necessary experimentation to make or use the invention based on the content of the disclosure is "undue" (In re Wands, 858 F.2d at 737, 8 USPQ2d 1400, 1404 (Fed. Cir.1988)).

Furthermore, the USPTO does not have laboratory facilities to test if an invention with function as claimed when working examples are not disclosed in the specification, therefore, enablement issues are raises and discussed based on the state of knowledge pertinent to an art at the time of the invention, therefore skepticism raised in the enablement rejections are those raised in the art by artisans of expertise.

The claims are drawn to a pharmaceutical composition for the medical treatment or diagnosis of an inflammatory disease comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome and an adrenocortical hormone, such as prednisolone. Claim 35 specifies the drug can be accumulated in an inflammatory site at a level 10 or more times higher than that of the drug administered alone. Claims 36-39 specify various inflammatory diseases, such as inflammatory eye disease, enteritis, rheumatism, and Alzheimier's disease. Claims 40 and 41 specify the pharmaceutical composition is for oral administration and parenteral administration, respectively.

The specification discloses inhibiting inflammation activity in collagen type II induced arthritis mouse model by intravenous or oral administration of Sialyl Lewis X tetrasaccharide modified liposome encapsulating prednisolone phosphate (L-Pred-SLX, SLX bonded to HSA bonded to membrane surface of liposome encapsulating prednisolone phosphate) to said mouse model or accumulation of predninsolone phosphate in eye and intestine of EAU mice by using

prednisolone phosphate encapsulating in the E-selectin-targeting liposome modified by sialyl Leqis X saccharide at 50-fold and 800-fold, respectively, higher than using free prednisolone phosphate alone (e.g. Example 14-16, p. 44-54). The claims encompass pharmaceutical composition comprising a sugar-modified liposome having different sugar chains bound to the membrane of the liposome and an adrenocortical hormone for medical treatment of various diseases recited in claim 36, such as encephalitis, inflammatory eye disease, otitis, pharyngitis, pneumonia, enteritis, rheumatism, and Alzheimier's disease, via various administration routes including oral and parenteral administration. The claims also encompass accumulating the drug adrenocortical hormone in various inflammatory sites in a subject at a level 10 or more times higher than that of the drug administered alone.

The term "pharmaceutical" implies therapeutic effect in vivo. The specification fails to provide adequate guidance and evidence for how to provide therapeutic effect for treating various inflammatory diseases recited in claim 36, such as encephalitis, inflammatory eye disease, otitis, pneumonia, enteritis, hepatitis, cystitis, rheumatism, systemic lupus erythematosus, ischemica disease, gout, injury, chemical corrosion, and nerudegenerative diseases, in vivo so as to treat said diseases. Different inflammatory diseases differ physiologically and pathologically and they have diverse symptoms resulting from the diverse pathological processes. The specification only discloses inhibiting inflammation activity in collagen type II induced arthritis mouse model by intravenous or oral administration of specific L-Pred-SLX liposome encapsulating prednisolone phosphate. There is no evidence of record that shows amelioration of various symptoms of numerous different inflammatory diseases in vivo by using different adrenocortical hormones encapsulated in various sugar chain modified

liposome. The specification discloses that sialyl Lewis X saccharide modified liposome (L-Pred-SLX) appears to target E-selectin and P-selectin in EAU mice but neither E-selectin nor P-selectin was observed to be expressed in the normal mice (e.g. p. 43, 1st and 2nd paragraphs). The claims encompass medical treatment for various subjects and EAU mice seems to be a unique subject that is different from the majority of subjects encompassed by the claims and there is no specific guidance regarding whether the targeted subjects express E- or P-selectin at the targeted inflammatory sites such that sufficient L-Pred-SLX liposome encapsulating the adrenocortical hormones can be accumulated at said inflammatory site so as to provide therapeutic effect in vivo. Further, different sugar chain modified liposome could have different target sites in a subject and different inflammatory diseases have diverse inflammatory sites in a subject. Banno et al., 1983 (Biochemistry International, Vol. 7, No. 4, p. 455-461) teaches preparation of liposomes bearing an asialofetuin sugar chain (AFSC) and discloses that said liposomes specifically target liver cells via intravenous injection into mice and are located in mitochondria-lysosomal fraction. Banno suggests the liposomes bearing AFSC would be useful to target enzymes to liver lysosomes (e.g. abstract, p. 456, 2nd and 3rd paragraphs). Therefore, different sugar side chains on the liposome apparently can direct the liposome to diverse target sites in vivo. The specification fails to disclose the target sites of different sugar chain modified liposome in a subject and how to use said sugar modified liposome comprising an adrenocortical hormone to treat numerous different inflammatory diseases as recited in the claims so as to provide therapeutic effect in vivo. Absent specific guidance, one skilled in the art at the time of the invention would not know how to treat numerous different inflammatory diseases as recited in the claims by using different sugar chain modified liposome comprising an adrenocortical

hormone so as to provide therapeutic effect, ameliorate symptoms of the inflammatory disease, in vivo.

Claim 35 specifies that the drug can be accumulated in an inflammatory site at a level 10 or more times higher than that of the drug administered alone. The claim encompasses various inflammatory sites in a subject and the use of numerous different sugar modified liposome. The specification fails to provide adequate guidance and evidence for whether various sugar modified liposome can be accumulated in different inflammatory sites in a subject. The specification only discloses that L-Pred-SLX liposome comprising prednisolone can be accumulated in the eye and intestine of EAU mice at 50-fold and 800-fold, respectively, higher than using free prednisolone phosphate alone. As discussed above, L-Pred-SLX liposome appears to target E-selectin and P-selectin in EAU mice but neither E-selectin nor P-selectin was observed to be expressed in the normal mice and EAU mice seems to be a unique subject that is different from the majority of subjects encompassed by the claims. There is no evidence of record that demonstrates the targeted inflammatory sites in various targeted subjects also express E- or P-selectin. Further, different sugar chain modified liposome could have different target sites in a subject. It would be unpredictable whether various sugar chain modified liposome could be accumulated in different inflammatory sites in a subject at a level 10 or more times higher than that of the drug administered alone. Absent specific guidance, one skilled in the art at the time of the invention would not know whether a sugar chain modified liposome could be accumulated in different inflammatory sites in a subject at a level 10 or more times higher than that of the drug administered alone.

For the reasons set forth above, one skilled in the art at the time of the invention would have to engage in undue experimentation to practice over the full scope of the invention claimed. This is particularly true based upon the nature of the claimed invention, the state of the art, the unpredictability found in the art, the teaching and working examples provided, the level of skill which is high, the amount of experimentation required, and the breadth of the claims.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1 and 36-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamazaki et al., 2006 (US Patent No. 7,070,801 B2).

The claims are drawn to a pharmaceutical composition for the medical treatment or diagnosis of an inflammatory disease comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome. Claims 36-39 specify various inflammatory diseases, such as inflammatory eye disease, enteritis, rheumatism, and Alzheimier's disease. Claims 40 and 41 specify the pharmaceutical composition is for oral administration and parenteral administration, respectively.

Yamazaki discloses sugar-modified liposome having a sugar chain bonded to its membrane surface, preferably through a linker protein, and having excellent absorption qualities. The liposome is useful for therapeutic drug delivery to cancer cells (e.g. abstract). Yamazaki also discloses a liposome having a sugar chain bonded to the liposome membrane surface through a linker protein and both the liposome membrane surface and the linker protein are hydrophilized with a hydrophilic compound, such as tris(hydroxymethyl) aminomethane (e.g. column 3, lines 21-36). Yamazaki teaches every element of the claimed pharmaceutical composition. It is noted that the intended use of the claimed product, i.e. the intended medical treatment of inflammatory diseases or intended administration route, does not carry weight in 102(e) rejection. Thus, the claims are anticipated by Yamazaki.

14. Claims 1 and 36-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Banno et al., 1983 (Biochemistry International, Vol. 7, No. 4, p. 455-461).

The claims are drawn to a pharmaceutical composition for the medical treatment or diagnosis of an inflammatory disease comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome. Claims 36-39 specify various inflammatory diseases, such as inflammatory eye disease, enteritis, rheumatism, and Alzheimier's disease. Claims 40 and 41 specify the pharmaceutical composition is for oral administration and parenteral administration, respectively.

Banno teaches preparation of liposomes bearing an asialofetuin sugar chain (AFSC) and discloses that said liposomes specifically target liver cells via intravenous injection into mice and are located in mitochondria-lysosomal fraction. Banno suggests the liposomes bearing AFSC

would be useful to target enzymes to liver lysosomes (e.g. abstract, p. 456, 2nd and 3rd paragraphs). Banno teaches every element of the claimed pharmaceutical composition. It is noted that the intended use of the claimed product, i.e. the intended medical treatment of inflammatory diseases or intended administration route, does not carry weight in 102(e) rejection. Thus, the claims are anticipated by Banno.

15. Claims 1 and 36-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Tachibana et al., 2003 (US Patent No. 6,527,759 B1).

The claims are drawn to a pharmaceutical composition for the medical treatment or diagnosis of an inflammatory disease comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome. Claims 36-39 specify various inflammatory diseases, such as inflammatory eye disease, enteritis, rheumatism, and Alzheimier's disease. Claims 40 and 41 specify the pharmaceutical composition is for oral administration and parenteral administration, respectively.

Tachibana teaches that "the particular combination of the phospholipids, DMPC and EPG, and a disaccharide or polysaccharide form a liposomal composition having liposomes of a particular narrow particle size distribution" (e.g. column 35, lines 45-48). The formed liposomes are modified by disaccharide or polysaccharide. Tachibana teaches every element of the claimed pharmaceutical composition. It is noted that the intended use of the claimed product, i.e. the intended medical treatment of inflammatory diseases or intended administration route, does not carry weight in 102(e) rejection. Thus, the claims are anticipated by Tachibana.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 1 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al., 2006 (US Patent No. 7,070,801 B2) or Banno et al., 1983 (Biochemistry International, Vol. 7, No. 4, p. 455-461) each in view of Dingle et al., 1984 (US Patent No. 4,427,649).

The claims are drawn to a pharmaceutical composition for the medical treatment or diagnosis of an inflammatory disease comprising a sugar-modified liposome having a sugar chain bound to the membrane of the liposome and an adrenocortical hormone, such as prednisolone.

Yamazaki discloses sugar-modified liposome having a sugar chain bonded to its membrane surface, preferably through a linker protein, and having excellent absorption qualities.

The liposome is useful for therapeutic drug delivery to cancer cells (e.g. abstract). Yamazaki also discloses a liposome having a sugar chain bonded to the liposome membrane surface through a linker protein and both the liposome membrane surface and the linker protein are hydrophilized with a hydrophilic compound, such as tris(hydroxymethyl) aminomethane (e.g. column 3, lines 21-36).

Banno teaches preparation of liposomes bearing an asialofetuin sugar chain (AFSC) and discloses that said liposomes specifically target liver cells via intravenous injection into mice and are located in mitochondria-lysosomal fraction. Banno suggests the liposomes bearing AFSC would be useful to target enzymes to liver lysosomes (e.g. abstract, p. 456, 2nd and 3rd paragraphs).

Yamazaki and Banno do not specifically teach a liposome containing an adrenocortical hormone, such as prednisolone.

Dingle teaches a method for treating inflammation in a host by using a pharmaceutical composition comprising liposomes containing an anti-inflammatory corticosteroid bearing an 11-hydroxy substituent and a lipophilic substituent (e.g. column 14, claim 1).

It would have been prima facie obvious for one of ordinary skill in the art at the time of the invention to prepare a sugar chain modified liposome containing an adrenocortical hormone, such as prednisolone, because both Yamazaki and Banno teach sugar-modified liposome and liposome was known as a delivery vehicle for delivering corticosteroid for treating inflammation as evidenced by the teaching of Dingle. Corticosteroid is an adrenocortical hormone. Since prednisolone is a type of corticosteroid, it would have been obvious for one of ordinary skill in

the art to prepare a liposome containing prednisolone in order to treat inflammation in view of the teaching of Dingle.

One having ordinary skill in the art at the time the invention was made would have been motivated to do so in order to treat inflammation in a host as taught by Dingle or for therapeutic drug delivery to cancer cells as taught by Yamazaki with reasonable expectation of success.

***Information Disclosure Statement***

**19.** The information disclosure statement filed 1-31-06 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. **No copy of JP 5-507519 (10-28, 1993, Cytel Corp.) and no translation of said reference has been provided.**

***Conclusion***

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shin-Lin Chen whose telephone number is (571) 272-0726. The examiner can normally be reached on Monday to Friday from 9:30 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on (571) 272-4517. The fax phone number for this group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Shin-Lin Chen
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